

**Patent Claims**

- 100000716-053002
1. Device for venting a gas bag made of a textile material, especially an airbag, characterized by at least one ignitable pyrotechnic charge which is associated to the gas bag in a region such that, when the pyrotechnic charge is ignited, at least one thread of the textile material in the region of the pyrotechnic charge is destroyed.
  2. Device according to claim 1, characterized in that the pyrotechnic charge is formed as an explosive thread which is introduced into the textile material of the gas bag or applied onto the textile material of the gas bag.
  3. Device according to claim 2, characterized in that the explosive thread comprises an electrically conductive stranded wire which is surrounded by an explosive casing and/or into the interweaving of which an explosive is introduced.
  4. Device according to claim 2, characterized in that the explosive thread comprises a thread made of an electrically conductive explosive material.
  5. Device according to claim 1, characterized in that the pyrotechnic charge comprises a filament and an explosive coating, the filament being introduced into the gas bag or applied onto the gas bag and the explosive coating being applied onto the gas bag in the region of the filament.
  6. Device according to claim 1, characterized in that the pyrotechnic charge comprises an explosive coating made of an electrically conductive explosive which is applied between two connection lines for the pyrotechnic charge onto the gas bag such that the explosive coating electrically contacts the two connection lines.

7. Device according to one of the preceding claims, characterized in that the pyrotechnic charge is associated to the gas bag at an inner side of the gas bag.
- 5 8. Device according to one of the preceding claims, characterized in that several ignitable pyrotechnic charges are arranged in a parallel connection with common connection lines.
9. Device according to one of the preceding claims, characterized in that connection lines for the ignitable pyrotechnic charge are applied onto the gas bag and/or introduced into the gas bag.
- 10 10. Device according to one of the preceding claims, characterized in that the region of the gas bag in which the pyrotechnic charge is associated to the gas bag is circumscribed by at least one seam.
- 15 11. Passenger restraint system for a vehicle, comprising at least one airbag with a control device, a sensor means for detecting a pressure exerted on the passenger by the airbag, and a device for venting a gas bag according to one of claims 1 to 10, the control device activating the device for venting the gas bag based on a pressure signal detected by the sensor means when a predetermined threshold value is exceeded.
- 20 12. Passenger restraint system according to claim 11, characterized in that the control device evaluates the pressure signal of the sensor means according to the pressure and/or time.
- 25 13. Passenger restraint system according to claim 11 or 12, the device for venting a gas bag being arranged on the airbag in a region which faces away from the passenger when the airbag is released.
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- 5 14. Passenger restraint system according to one of claims 11 to 13, wherein the device for venting the airbag is designed such that the total area of the ventilation openings in the airbag conditioned by the triggering of the device is larger than the total area of outlet openings of the airbag which permit an escape of the gas after the complete defolding of the airbag.
- 10 15. Passenger restraint system according to one of claims 11 to 14, characterized in that several devices for venting a gas bag are provided, which are associated to the airbag in various regions, the sensor means in addition detects the position of an impact region on the airbag where the airbag exerts a local pressure on the passenger and the control device activates one of the devices for venting the gas bag based on a position signal detected by the sensor means, which is essentially opposite the impact region with respect to the airbag.
- 15 16. Passenger restraint system according to one of claims 11 to 15, wherein the sensor means comprises at least one sensor which is arranged on the airbag in a region which faces the passenger when the airbag is released.
- 20 17. Passenger restraint system according to claim 16, wherein the sensor is a force sensor arranged on the airbag.
- 25 18. Passenger restraint system according to claim 17, characterized in that the force sensor comprises at least two electrode structures which are applied onto a textile substrate at a certain mutual distance, and a layer of a semiconductor material which is applied over the electrode structures in an active region of the sensor in direct contact with the electrode structures, the layer made of a semiconductor material comprising an inner resistance being variable in response to a deformation of the layer.
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19. Passenger restraint system according to claim 18, characterized in that the textile substrate comprises the airbag material, the electrode structures being directly applied onto the airbag.

ADD A1

ADD A2  
ABSTRACT

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